



Mini-Circuits

COAXIAL HIGH POWER

Termination

TERM-50W-183S+

50Ω 50W DC to 18 GHz SMA Male

THE BIG DEAL

- Ultra-Wideband Operation, DC to 18 GHz
- Input Power Handling, 50W
- Excellent Return Loss, 26 dB Typ. up to 18 GHz



Generic photo used for illustration purposes only

| | |
|------------|----------------|
| Model No. | TERM-50W-183S+ |
| Case Style | LL2798-3 |
| Connectors | SMA Male |

+RoHS Compliant

The +Suffix identifies RoHS Compliance.
See our website for methodologies and qualifications

APPLICATIONS

- Cellular Communications
- Satellite Communications
- Test set-up
- Defense and Radar

PRODUCT OVERVIEW

Mini-Circuits' TERM-50W-183S+ is an ultra-wideband 50Ω high power termination capable of absorbing signals up to 50W from DC to 18 GHz. It provides excellent return loss across its entire operating frequency range, effectively dissipating signal power with minimal reflections. This model has SMA male connectors, allowing connections with SMA female connectors. The unit features rugged construction for a long life of use and comes in passivated stainless steel connector with black anodized aluminum housing.

KEY FEATURES

| Features | Advantages |
|---|--|
| Wideband, DC to 18 GHz | Extremely wide frequency range provides application flexibility and makes this model ideal for broadband and multi-band use. |
| Good Return Loss: • 26 dB typ. up to 18 GHz | Good return loss minimizes signal reflections across multiple-decade frequency range |
| Power Handling up to 50W | Meets a wide range of system power requirements. |
| Wide operating temperature range, -55 to +100 °C | Withstands tough operating conditions and is suitable for use near high power componentry where heat rise is common. |

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ELECTRICAL SPECIFICATIONS AT 25°C

| Parameter | Condition (GHz) | Min. | Typ. | Max. | Units |
|--------------------------|-----------------|------|------|------|-------|
| Frequency Range | - | DC | - | 18 | GHz |
| Return Loss | DC - 6 | 19.1 | 35 | - | dB |
| | 6 - 12.4 | 16.5 | 28 | - | |
| | 12.4 - 18 | 14.7 | 26 | - | |
| Input Power ¹ | DC - 18 | - | - | 50 | W |

1. At 25°C, derate linearly to 20W at 100°C.

ABSOLUTE MAXIMUM RATINGS²

| Parameter | Ratings |
|-----------------------|-------------------|
| Operating Temperature | -55 °C to +100 °C |
| Storage Temperature | -55 °C to +100 °C |

2. Permanent damage may occur if any of these limits are exceeded.



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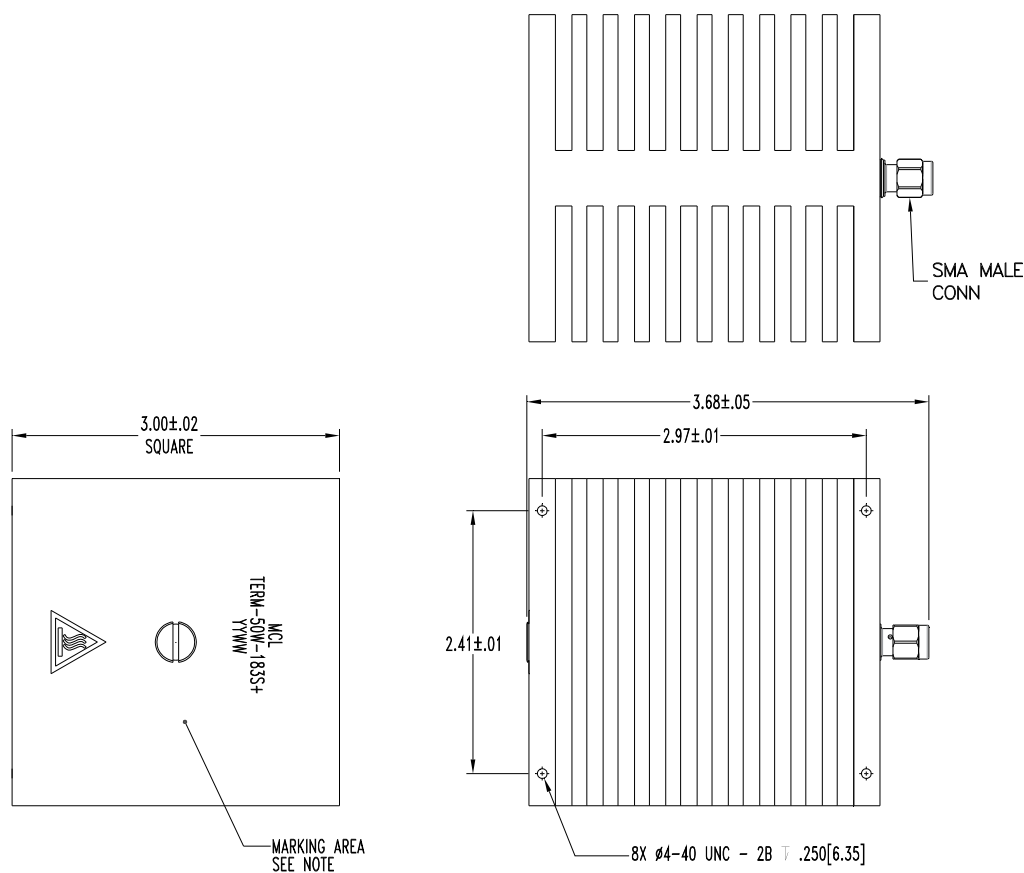
TERM-50W-183S+

50Ω 50W DC to 18 GHz SMA Male

COAXIAL CONNECTIONS

| | |
|-------|----------|
| Input | SMA Male |
|-------|----------|

OUTLINE DRAWING



Weight: 862 grams (max.)



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Termination

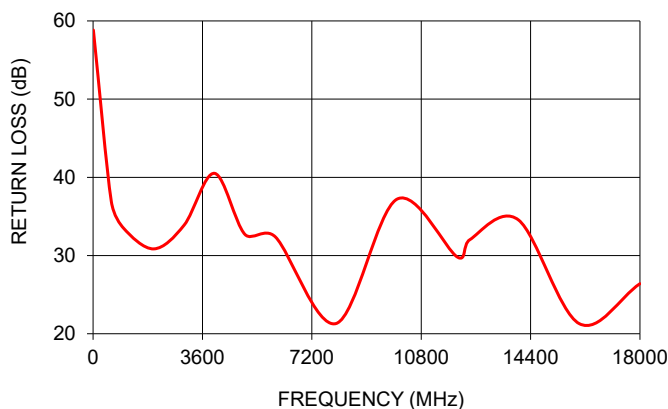
TERM-50W-183S+

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TYPICAL PERFORMANCE DATA / GRAPHS

| Frequency (MHz) | Return Loss (dB) |
|-----------------|------------------|
| 10 | 58.83 |
| 600 | 36.92 |
| 1000 | 33.51 |
| 2000 | 30.85 |
| 3000 | 33.90 |
| 4000 | 40.51 |
| 5000 | 32.70 |
| 6000 | 32.38 |
| 8000 | 21.31 |
| 10000 | 37.20 |
| 12000 | 29.78 |
| 12400 | 32.02 |
| 14000 | 34.56 |
| 16000 | 21.29 |
| 18000 | 26.40 |

TERM-50W-183S+
RETURN LOSS



NOTES

- Performance and quality attributes and conditions not expressly stated in this specification document are intended to be excluded and do not form a part of this specification document.
- Electrical specifications and performance data contained in this specification document are based on Mini-Circuit's applicable established test performance criteria and measurement instructions.
- The parts covered by this specification document are subject to Mini-Circuits standard limited warranty and terms and conditions (collectively, "Standard Terms"); Purchasers of this part are entitled to the rights and benefits contained therein. For a full statement of the standard terms and the exclusive rights and remedies thereunder, please visit Mini-Circuits' website at www.minicircuits.com/terms/viewterm.html



Typical Performance Data

| FREQUENCY (MHz) | RETURN LOSS (dB) |
|--------------------|---------------------|
| 10 | 58.83 |
| 20 | 56.84 |
| 30 | 55.11 |
| 40 | 53.63 |
| 50 | 52.07 |
| 60 | 51.49 |
| 70 | 50.63 |
| 80 | 49.84 |
| 90 | 49.12 |
| 100 | 48.53 |
| 200 | 44.08 |
| 300 | 41.44 |
| 400 | 39.57 |
| 500 | 38.12 |
| 600 | 36.92 |
| 700 | 35.89 |
| 800 | 34.99 |
| 900 | 34.20 |
| 1000 | 33.51 |
| 1500 | 31.35 |
| 2000 | 30.85 |
| 2500 | 31.72 |
| 3000 | 33.90 |
| 3500 | 38.17 |
| 4000 | 40.51 |
| 4500 | 34.71 |
| 5000 | 32.70 |
| 5500 | 34.61 |
| 6000 | 32.38 |
| 6500 | 26.64 |
| 7000 | 23.41 |
| 7500 | 21.77 |
| 8000 | 21.31 |
| 8500 | 22.39 |
| 9000 | 25.87 |
| 9500 | 34.04 |
| 10000 | 37.20 |
| 10500 | 28.78 |
| 11000 | 26.06 |
| 11500 | 26.62 |
| 12000 | 29.78 |
| 12500 | 32.33 |
| 13000 | 35.56 |
| 13500 | 49.00 |
| 14000 | 34.56 |
| 14500 | 36.68 |
| 15000 | 36.38 |
| 15500 | 25.09 |
| 16000 | 21.29 |
| 16500 | 20.90 |
| 17000 | 24.23 |
| 17500 | 40.33 |
| 18000 | 26.40 |

High Power Termination 50Ω, SMA-Male

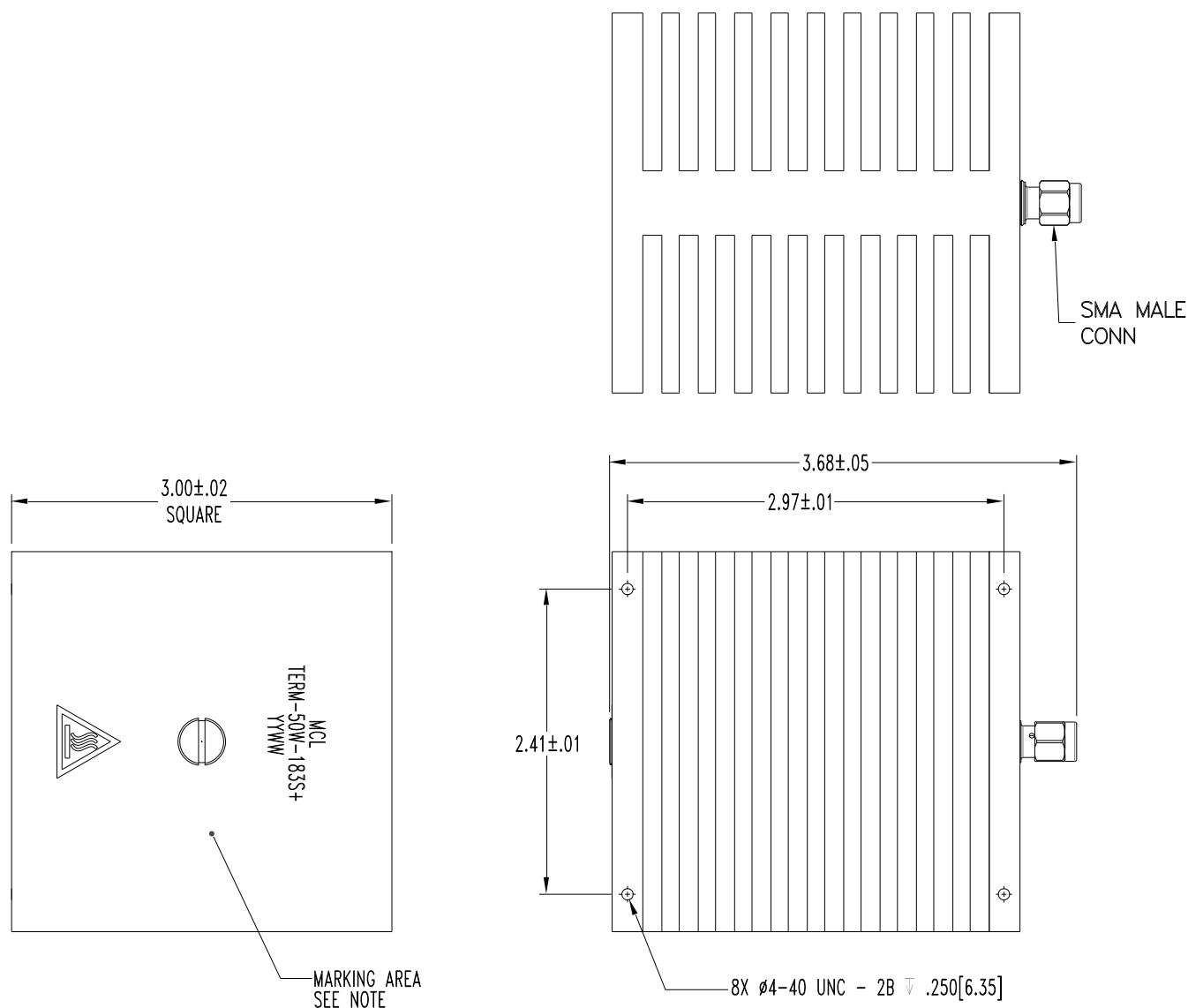
TERM-50W-183S+

Typical Performance Curves



Outline Dimensions

LL2798-3



Weight: 862 grams

Dimensions are in inches (mm). Tolerances: 2Pl. $\pm .03$; 3Pl. $\pm .010$

Notes:

1. Case Material: Aluminum alloy.
2. Case Finish: Black anodize.



P.O. Box 350166, Brooklyn, New York 11235-0003 (718) 934-4500 Fax (718) 332-4661 For detailed performance specs & shopping online see Mini-Circuits web site



The Design Engineers Search Engine Provides ACTUAL Data Instantly From MINI-CIRCUITS At: www.minicircuits.com

RF/IF MICROWAVE COMPONENTS



All Mini-Circuits products are manufactured under exacting quality assurance and control standards, and are capable of meeting published specifications after being subjected to any or all of the following physical and environmental test.

| Specification | Test/Inspection Condition | Reference/Spec |
|-----------------------|--|---|
| Operating Temperature | -55° to 100° C or -55° to 85° C Ambient Environment | Individual Model Data Sheet |
| Storage Temperature | -55° to 100° C Ambient Environment | Individual Model Data Sheet |
| Thermal Shock | -55° to 100°C, 5 cycles | MIL-STD-202, Method 107, conditionB-3,except over - 55° to 100°C |
| Connector Durability | 500 mating/unmating cycles | MIL-PRF-39012E, PARAGRAPH 4.6.12 |